

## ***Comments on Petition to Add Phosphate Rock Mining to SARA 313 Reporting*** **Idaho Mining Association**

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EPA is seeking comments on the consideration of adding facilities classified under NAICS 212392 (phosphate rock mining) to the list of facilities subject to EPCRA § 313. Federal statute provides that the Administrator may apply the requirements to report under EPCRA 313 *if the Administrator determines that such action is warranted*.<sup>1</sup>

The Greater Yellowstone Coalition has petitioned EPA to add phosphate rock mining to SARA 313 reporting. The petition is focused on selenium releases from phosphate mining in southeastern Idaho as the basis for such a new reporting requirement. This attachment provides additional information for EPA to consider in determining whether adding phosphate rock mining to SARA 313 reporting is warranted.

We note that GYC submitted this same petition in 2006, and The Fertilizer Institute (TFI) in response catalogued in detail a number of legal and factual reasons why the TRI Program should not apply to these operations and circumstances. We support those comments which have been attached to the comments submitted by the J.R. Simplot Company. All of those reasons are equally compelling and dispositive today and, in themselves, dictate that this petition should be denied. In addition, there are a number of other factual considerations described below relating to the historic phosphate mine sites in Idaho, including the public availability of existing, extensive data relating to these sites, the occurrence of ongoing CERCLA remedial actions to address historical mine sites and the implementation of protective measures at new mine sites, that bolster the conclusion that the requested listing of these operations under the TRI Program is both inappropriate and unnecessary.

The Idaho mining phosphate industry has been actively engaged and leading the effort to address selenium releases from historical phosphate mines in Idaho. This work, which is being overseen by a multitude of state and federal agencies, has resulted in considerable information on the extent of selenium in the environment from phosphate mining. Since the information sought to be reported is already in the public domain and the sites are under consent orders under CERCLA, adding phosphate rock mining to the list of facilities subject to EPCRA 313 is unwarranted.

### **1. Overview and History of Phosphate Mining in Southeastern Idaho.**

Southeastern Idaho is part of what is known as the Western Phosphate Field, which is one of the largest available resources of phosphate rock in the world. A 1977 study by the USGS estimated that the southeastern Idaho phosphate field contained 35% of the U.S. reserves and 80% of the reserves in the Western Phosphate Field.<sup>2</sup> The

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<sup>1</sup> See Title 42 § 11023(b)(2).

<sup>2</sup> U.S. Geological Survey, Bureau of Land Management, and U.S. Forest Service. 1977. Final Environmental Impact Statement: Development of Phosphate Resources in Southeastern Idaho.

phosphate is located on federal, state and private lands. The first phosphate production from a mine in Idaho was the Waterloo Mine near Montpelier in 1907.

Figure 1  
Western Phosphate Field



Currently, there are three primary mining operations and associated mineral processing facilities in southeastern Idaho.

Agrium Conda Phosphate Operations is a major producer of concentrated phosphate based fertilizers located in Soda Springs, Idaho. They operate the Dry Valley Mine which is 15-20 miles northeast of Soda Springs. Ore from the mine is processed at a milling and fertilizer manufacturing facility north of Soda Springs to produce a variety of liquid and granulated fertilizers.

The J.R. Simplot Company operates the Smoky Canyon Mine near Afton, Wyoming. Ore from the mine is slurried and then conveyed to a processing plant near Pocatello, Idaho through 87 mile-long pipeline. At the Pocatello facility a number of products including liquid fertilizer, granulated fertilizers and phosphate animal feed are made.

Monsanto Company obtains phosphate ore obtained from their South Rasmussen Mine approximately 25 miles northeast of Soda Springs. At their Soda Springs plant, Monsanto produces very high quality phosphorus which is used for a number of products including a very effective herbicide. The Monsanto plant is the only producer of elemental phosphorus in the western hemisphere.

The phosphate deposits in southeastern Idaho are important Access for various reasons. First is that phosphate is a strategic mineral essential for agricultural production. In particular, phosphate fertilizers produced in southeastern Idaho are crucial for the agriculture not only in Idaho, but throughout the West. Over 800,000 tons of phosphate fertilizer can be produced by IMA members in southeastern Idaho. The

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number of acres of crops that can be grown from the phosphate nutrients produced from Idaho phosphate is considerable (see Table 1).

Table 1  
Agriculture Benefits from Phosphate Fertilizers Produced in Idaho

<b>CROP</b>	<b>POUNDS PHOSPHATE PER ACRE</b>	<b>ACRES SUPPORTED</b>
Potatoes	200	8,000,000
Corn	100	16,000,000
Soybeans	75	21,333,333
Wheat	60	26,666,667

Fertilizer inputs are typical values. For each crop, it is shown the number of acres that nutrient input that can be met by 800,000 tons of phosphate fertilizer.

If these phosphate fertilizer products are not available from Idaho producers, then they will likely come from imports. This will likely increase costs to the agricultural economy and may influence supply.

As noted earlier, the elemental phosphorus plant in Soda Springs is the only one in the western hemisphere. Besides the use of the phosphorus in making herbicide, the product is also used in niche specialty applications such as advanced hydraulic fluids used by military aircraft.

Second, as noted in the introduction to this paper, the phosphate industry has been a major part of the community fabric of southeastern Idaho for a number of decades. The direct economic impact from mining and associated processing activities in Idaho is \$352,833,000 annually, of which well over 50% is from phosphate mining and associated processing activities.<sup>3</sup> The secondary economic impacts from phosphate mining are estimated at \$250,761,300 annually.

## **2. Selenium Releases from Mining and the Industry Response**

The phosphate deposits in southeastern Idaho contain a “middle shale” that has elevated concentrations of selenium. Selenium is an essential trace nutrient which can have adverse effects on the environment at certain concentrations. In 1996, selenium releases from historic phosphate mines prompted concerns about potential human health and ecological effects from historic mining operations. Selenium has many chemical forms; some are mobile in the environment and others are not. Selenium, in the middle shales, can become mobile especially after exposure to water. Water contacting certain phosphate middle shales can result in seeps and springs with elevated concentrations of selenium.

<sup>3</sup> Idaho Economics. 2007. The Idaho Mining Association: An Economic Impact Analysis of Operating Member Operations in the State of Idaho.

Historically, federal land management agencies approved mining practices that included placing middle shales on the surface of land being reclaimed because these shales also contain organic matter that facilitated revegetation. Also, at certain mines, these shales were placed in what is called a cross-valley fill. In a cross valley fill, water would flow through the fill from an upgradient creek and from precipitation percolating through the fill. The water flowing through the fill would pick up selenium from these shales. This water would then appear as a seep, spring or go into groundwater. So, past federally-approved practices have contributed to the release of selenium into the environment.

Beginning in 1997, the Idaho Mining Association (IMA) voluntarily formed a Selenium Subcommittee to conduct an “Area-Wide” investigation of the occurrence and potential release of metals, including selenium, associated with phosphate mining in the southeast Idaho Phosphate Resource Area. A brief summary of the Selenium Subcommittee’s activities and the transition to the current CERCLA approach is presented below.

- Simplot, FMC (now Astaris), Nu-West, P4 Production, and Rhodia participated in the Area-Wide investigations.
- Area-Wide investigations and monitoring programs were initiated, funded, planned, and implemented by this group of phosphate mining companies with input from experts at the University of Idaho and University of California-Davis and with support from IMA’s environmental consultant, Montgomery-Watson Harza.
  - The Area-Wide investigation included surface water and groundwater monitoring in the vicinity of 14 active and inactive phosphate mines.
  - Data collection associated with the Area-Wide investigations began in 1997 and continued through 2001.
  - The data collected through these investigations, including documentation of the data collection activities and data quality, were shared with Federal and State agencies through a series of data reports dated 1998 through 2001.<sup>4</sup>
    - *Fall 1997 Interim Surface Water Survey Report*, Southeast Idaho Phosphate Resource Area Selenium Project, February, 1998;
    - *Final 1998 Regional Investigation Report*, Southeast Idaho Phosphate Resource Area Selenium Project, December, 1999;
    - *1999 Interim Investigation Data Report*, Southeast Idaho Phosphate Resource Area Selenium Project, October, 2000; and

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<sup>4</sup> The IMA Selenium Subcommittee initiated, developed, and funded an environmental database and document retrieval website to share information from ongoing Area-Wide investigations and site-specific studies. The database was initially set up by Idaho National Energy Laboratory using a map-based/GIS format. Idaho State University established and maintained the Idaho Selenium Information Project website (<http://giscenter.isu.edu/research/techpg/sisp/index.htm>) as a resource for the public, selenium researchers, and government entities.

- *1999-2000 Regional Investigation Data Report for Surface Water, Sediment and Aquatic Biota Sampling Activities*, April, 2001.

The IMA Selenium Subcommittee joined with representatives from Federal and State land management, environmental and resource management agencies to form the Selenium Working Group, which provided oversight for the Area-Wide investigations funded by the five IMA Selenium Subcommittee companies. The Selenium Working Group operated as a private-public partnership to direct data collection strategies, identify specific data needs, collaterally interpret data, and cooperate to develop mitigation or management practices to limit selenium releases from current and future phosphate mining operations.

Agencies initially participating in the Selenium Working Group included:

- U. S. Forest Service (USFS);
- U. S. Bureau of Land Management (BLM);
- Idaho Department of Environmental Quality (IDEQ);
- Idaho Department of Lands (IDL); and
- Idaho Department of Fish and Game (IDFG).

Later in the process, several other agencies and sovereign parties joined in the process but remained outside the working group. They included:

- U.S. Fish and Wildlife Service (USFWS);
- U.S. Environmental Protection Agency (EPA);
- U.S. Bureau of Indian Affairs (BIA); and
- Shoshone-Bannock Tribes.

Additionally, representatives of the public, interest groups, academia, veterinary and agricultural sciences, and the press participated in the open meetings of the Selenium Working Group.

Jeff Jones was the primary representative of the USFS participating in the Selenium Working Group. In 2002, Jeff Jones collaborated with a USFS consultant, Brian Buck of JBR and Associates, to author a summary of private and public responses to selenium issues in southeastern Idaho. In that summary, Buck and Jones (2002)<sup>5</sup> noted that "...the IMA Selenium Subcommittee...proactively accepted responsibility for beginning the expensive work of studying this problem early on when it would have been easy to wait and see what happened from a legal and regulatory approach."

In 2000, the voluntary efforts of the private-public Selenium Working Group partnership were replaced by an Inter-Agency Memorandum of Understanding (MOU) Concerning Contamination from Phosphate Mining Operations in Southeastern Idaho. The MOU

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<sup>5</sup> Buck, Brian W., Jones, Jeffry L., 2002. Interagency/Industry coordination to respond to Selenium contamination at phosphate mines in southeastern Idaho. <http://www.fs.fed.us/geology/buck-jones.pdf>, accessed January, 2009.

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prescribes that the Federal Agencies (USFS, BLM, EPA, USFWS, BIA) work together with IDEQ and Shoshone-Bannock Tribes to address selenium issues under CERCLA. The inter-agency MOU provides that a committee of governmental agency representatives (from the USFS, BLM, BIA, USFWS, EPA, DOJ, IDEQ and the Shoshone Bannock Tribes) will undertake a variety of tasks, including defining the area-wide investigation, identifying specific sites for additional investigation or Response Action, selecting site-specific lead agencies, identifying support agencies, and otherwise implementing their commitment to work cooperatively.

The Statement of Purpose in the inter-agency MOU outlines six purposes for which the MOU is intended to provide a framework:

- (1) ascertaining the overall extent of the contamination present in and around historic and ongoing phosphate mining operations;
- (2) defining specific sites for focused investigation and Response Action;
- (3) establishing overall priorities for the investigation and Response Action process in order to protect human health and the environment;
- (4) undertaking investigations and Response Actions in a manner that will allow the Parties to recover response costs;
- (5) promoting future mining practices that will safeguard the environment from future contamination; and
- (6) negotiating agreements or entering contracts consistent with the requirements of CERCLA under which the mining companies or contractors hired by one of the parties to the MOU will undertake appropriate investigation and Response Actions in connection with selenium and other contamination within the Mining Area.

The mining companies embraced this change in management and coordination, and in 2001 the phosphate mining companies entered an Area-Wide Administrative Order on Consent (AWAOC) to complete the Area-Wide Investigation for selenium and other potential contaminants of concern under the direction of the IDEQ. The primary objectives of the Area-Wide Investigation were to:

- (1) establish Area-Wide Remedial Action Objectives (RAOs), remediation goals (RGs), and risk-based cleanup levels for selenium and other contaminants of concern for protection of human health and the environment;
- (2) develop a monitoring plan to assess the effectiveness of future remedial activities within the resource area;
- (3) develop Best Available Technologies and Remediation Techniques for use, as appropriate, at sites in the Resource Area; and
- (4) provide information to support future agency-approved site investigations and remedial actions, and other land use activities on selenium-impacted lands within the Resource Area.

The companies' work under the AWAOC was to include a general, Area-Wide Risk Assessment, and planning for general RAOs and measures that are intended to be used to facilitate, expedite and provide consistency to all future site-specific work.

Paragraph 10 of the AWAOC states that “The parties contemplate that various site-specific investigations, risk assessments and possible remedial actions will or may be performed in the future on all or some of the individual mining operations . . . pursuant to the terms of negotiated Consent Orders/Administrative Orders on Consent.” Site-specific investigations, with oversight by the appropriate lead agency as set forth in the inter-agency MOU, were to follow.

Data collected by IMA Selenium Subcommittee served as the basis for an early Baseline Human Health Risk Assessment and Baseline Ecological Risk Assessment for the Southeast Idaho Phosphate Resource Area. These first risk assessments were produced by IMA and submitted to Federal and State agencies involved in the Selenium Working Group. The intent behind the Area-Wide Risk Assessments was to provide focus for any site-specific investigations and thereby streamline the process for cleanup.

Ultimately, the regulatory-agency group decided to perform independent risk assessments through the 2000 inter-agency MOU Concerning Contamination from Phosphate Mining Operations in Southeastern Idaho. Parties to the MOU agreed that an Area-Wide contamination investigation should be conducted by IDEQ under criteria and a scope of work established in the MOU, with a commitment for cost recovery and enforcement within the scope of an “Administrative Order on Consent” (AOC) with the mining companies principally responsible for the leases in southeast Idaho. In August of 2000, IDEQ formally took the agency lead for the selenium Area-Wide investigation through voluntary agreements with the companies and inter-agency participants. IDEQ hired a contractor for technical assistance and developed a scope of work and project schedule for completing the Area-Wide Risk Assessments and developing regional risk-management guidance. The Area-Wide Risk Assessments were completed in 2002 (Tetra Tech EM, Inc., 2002)<sup>6</sup>. Area-wide risk management guidance was issued by IDEQ in February 2004 (IDEQ, 2004)<sup>7</sup>.

### **3. Ecological and Human Health Studies**

This study, *Final Area Wide Human Health and Ecological Risk Assessment* ***represents the most comprehensive analysis done of risks associated with phosphate mining in eastern Idaho*** and looked at other potential pollutants such as cadmium and arsenic besides selenium.<sup>8</sup> The risk assessment was then used to develop removal action goals, and action levels for addressing releases and impacts

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<sup>6</sup> TetraTech EM Inc. 2002. Final Area Wide Human Health and Ecological Risk Assessment, Selenium Project, Southeast Idaho Phosphate Mining Resource Area. Contract Number C023, Task Order AWI-00-01. Available at: <http://giscenter.isu.edu/research/techpg/sisp/reports.asp>

<sup>7</sup> IDEQ, 2004. Final Area-Wide Risk Management Plan, prepared by Idaho Department of Environmental Quality, Soda Springs, ID February. Available at: <http://giscenter.isu.edu/research/techpg/sisp/reports.asp>

<sup>8</sup> TetraTech EM Inc. 2002. Final Area Wide Human Health and Ecological Risk Assessment, Selenium Project, Southeast Idaho Phosphate Mining Resource Area.



from historic phosphate mining operations in southeast Idaho.<sup>9</sup> The risk assessment findings were summarized as follows:<sup>10</sup>

The risk assessment concluded that regional human health risks and population-level ecological risks were unlikely, based on observed conditions in the Resource Area. These conclusions were based on both modeling and a weight of evidence approach considering regional land and recreational use, population distribution, habitat availability, area wide surface and groundwater conditions, and other factors affecting potential exposures.

### Human Health

The human health assessment did identify several locations and scenarios that could present elevated risks under conditions of sole use over extended periods of time such as the residential use of waste rock piles or fish diets exclusively from highly impacted first order streams. The hazards associated with ingestion of surface soil were calculated to exceed a Hazard Index (HI) of 1 at one location due to cadmium, arsenic and selenium. Ingestion of fish tissue was found to be associated with hazards greater than 1 only for subsistence lifestyle receptors and the child Native American receptor. Currently, the only fish consumption advisory is for a 1<sup>st</sup> order stream, East Mill Creek. The advisory applies to only children under 15 years of age and recommends that they do not consume more than six (6) meals a month of Yellowstone Cutthroat Trout or Brook Trout.<sup>11</sup>

The Tetra Tech/IDEQ concluded that these conditions (risks from soil and fish tissue ingestion) were considered highly unlikely based on current land use, 1<sup>st</sup> order stream characteristics and regional observations over the past seven years.<sup>12</sup>

In addition, to the Tetra Tech/IDEQ risk assessment, there was a public health assessment conducted by the Idaho Department of Health.<sup>13</sup> Here is a summary of the conclusions from this study.

1. BCEH classifies the Southeast Idaho Phosphate Mining Resources Area as a no apparent public health hazard according to ATSDR's interim public hazard categories (Appendix E).

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<sup>9</sup> Idaho Department of Environmental Quality (IDEQ). 2004. Area Wide Risk Management Plan: Removal Action Goals and Objectives, and Action Levels for Addressing Releases and Impacts from Historic Phosphate Mining Operations in Southeast Idaho.

<sup>10</sup> IDEQ. 2004. p.5.

<sup>11</sup> Idaho Department of Health and Welfare. 2011. Eat Fish, Be Smart, Choose Wisely.

<http://www.healthandwelfare.idaho.gov/Health/EnvironmentalHealth/FishAdvisories/tabid/180/Default.aspx>

<sup>12</sup> IDEQ. 2004, p.5.

<sup>13</sup> Idaho Department of Health and Welfare (IDHW). 2006. Public Health Assessment Southeast Idaho Phosphate Mining Resource Area Bannock, Bear Lake, Bingham and Caribou Counties, Idaho.

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2. The current, past, and future completed exposure pathways include soil, surface water, sediment, groundwater, and biota (fish, elk, beef, and plants). The most important exposure pathways are ingestion of fish, elk, and beef in the Resource Area.
3. The levels of contaminants in the soil, surface water, sediment, and groundwater in the Resource Area are not high enough to result in any cancer or adverse non-cancer health effects to hunters, anglers, collectors, and residents, including children, living near the Resource Area.
4. It is unlikely that the cadmium, chromium, and selenium in the fish from the Resource Area will result in any adverse health effects to the general public, as well as the Native American subsistence population who consume up to 70 grams of fish every day.
5. It is unlikely that the contaminants in elk muscle and elk liver will result in any adverse health effects to those who eat 8 ounces of elk meat daily, or eat up to 10 ounces of elk liver per month.
6. It is unlikely that the selenium in beef muscle and beef liver will result in any adverse health effects for people eating up to 8 ounces every day.
7. It is unlikely that the contaminants in the plants at the Resource Area, which may be ingested or used by populations living in the Resource Area, will result in any adverse health effects.
8. The health outcome data analysis for the Resource Area showed that there were no statistically significant higher cancer incidence rates for any of the cancer types compared to the remainder of the State of Idaho. Instead, the cancer incidence rates for some cancer types are significantly lower than the remainder of the State of Idaho.
9. The conclusions in this report only apply to the current site conditions. If land uses change, these conclusions may no longer be applicable.

**Ecological**

The ecological risk assessment was done in various Tiers, with Tier I being a worst-case screening level analysis. The Tier II assessment was designed to evaluate an “average” risk to the selected endpoints in the Resource Area. Instead of maximum detected concentrations for each media, an area-weighted average was developed for each media. These average Exposure Point Concentrations (EPC) were designed to predict the average exposure for the entire receptor population in the Resource Area.

Tier I results indicated a likelihood for risks to aquatic and terrestrial ecological receptors residing in localized areas of highly elevated concentrations of selenium and

mining-related metals.<sup>14</sup> Based on the Tier II assessment, the following conclusions were reached:<sup>15</sup>

- The only significant area-wide risks to ecological receptors are presented by selenium and cadmium.
- While selenium and cadmium risks are elevated, they are less than three times the background risk for the Resource Area.
- The risks calculated from the Tier 2 assumptions may significantly underestimate exposure to localized subpopulations of various species.

These conclusions were utilized in the Area Wide Risk Management Plan as IDEQ noted that:<sup>16</sup>

- Areas exhibiting concentrations in excess of regulatory criteria or risk-based levels of concern as a result of historic mining releases are generally limited to a small percentage of the overall Resource Area and do not appear to present regional population level exposures.
- Supplemental mine-specific human health and/or ecological risks, and Lead Agency-tailored contaminants of concern lists may be required at individual mines to evaluate potential unique conditions not considered during the Area Wide risk evaluation process.

An approach focused on thoroughly evaluating the contaminants of concern and determining risks is being done a site specific basis where historical phosphate mining has occurred.

#### **4. Regulatory Actions to Address Selenium Releases**

The legal process being used for these studies and actions is CERCLA.<sup>17</sup>

Currently the focus of the phosphate companies is site-specific mine studies. The process is at a slightly different “stage” for each site, but essentially there are four main stages: (a) determination of the extent of contamination; (b) identification of risks, (c) evaluation of potential remedies/removal actions and (d) implementation. The process also includes a step for public review and comment on the investigation and proposed actions.

<sup>14</sup> The Idaho Department of Environmental Quality identified the following metals as Contaminants of Concerns: cadmium, chromium, nickel, selenium, vanadium and zinc. See IDEQ. 2004, page 7.

<sup>15</sup> Tetra Tech. 2002, pages 152-154.

<sup>16</sup> IDEQ. 2004, page 6.

<sup>17</sup> Often these mining sites are referred to as Superfund sites. Typically, “Superfund” refers to sites that are on the National Priority List. These mine sites are not on the National Priority List (see Appendix A for list of NPL sites in Idaho).

A number of corrective actions have been completed. The primary source of water into the cross-valley fill at the Smoky Canyon Mine (the Pole Canyon overburden disposal area) was diverted around the overburden disposal area. In recent years NuWest Industries (Agrium) has completed a major restoration project at Georgetown Canyon and Monsanto has installed measures to stop selenium entering the upper reaches of Sheep Creek.

The status of several Southeast Idaho Phosphate Mine site CERCLA projects show that three mines have CERCLA signed orders, including the Gay Mine, Conda Mine and Smoky Canyon Mine. At Gay Mine, the initial scoping of project is underway. At Conda Mine early remedial action is proposed and treatment studies have been conducted. At the Smoky Canyon Mine early action remedial actions are completed, investigation is underway; another corrective action has been proposed, and treatment studies have been conducted. Representatives for the Rhodia Mine will begin negotiations in 2012 with the Forest Service, who will conduct limited surface water sampling during the 2012 spring runoff event.

Each of these sites under a CERCLA order is being overseen by either a federal or state agency (or a combination of agencies). In addition to the extensive investigations that have already been conducted, additional site-focused investigations are being done (or will be done) at each of the mine sites to fully understand the extent of selenium. Throughout this process, a tremendous amount of information is available for the public and there is a public participation process to review the information (data) gathered and comment on proposed actions for each of the sites.

## **5. Advances in Technology and Practices for New Mining**

Based on the information collected within the Idaho Phosphate Resource Area and from other mining sites across the west, the Selenium Subcommittee produced a set of Best Management Practices (BMPs) for active and future phosphate mines in southeast Idaho (Montgomery Watson, 2000)<sup>18</sup>. The Selenium Subcommittee later initiated development of a set of selenium-mitigation guidelines for active mining operations in southeast Idaho. The IMA worked in collaboration with the Idaho Department of Lands and the U.S. Forest Service to prepare and distribute the final Selenium Management Practices document in 2005 (Agrium et al., 2005)<sup>19</sup>.

Several of the management strategies developed to limit selenium release have been widely adopted by mining companies and land managers in southeastern Idaho. These

<sup>18</sup> Montgomery Watson. 2000. Best Management Practices Guidance Manual for Active and Future Phosphate Mines. Southeast Idaho Phosphate Resource Area Selenium Project. Working Draft Revision, 1.0. Prepared for the Idaho Mining Association Selenium Committee. November, 2000.

<sup>19</sup> Agrium Conda Phosphate Operations, Astaris LLC, Bureau of Land Management, Idaho Department of Lands, J.R. Simplot Company, and United States Forest Service, 2005. **Selenium Management Practices, A Cooperative Document**, <http://giscenter-ims.isu.edu/SISP/reports/Se%20Management%20Practices%202006-2005.pdf>, assessed June, 2009.

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include new designs of waste overburden disposal areas to isolate seleniferous materials from contact with water, changes in seed mixtures for revegetating slopes, and soil amendments for limiting selenium uptake by plants (Agrium et al., 2005; Mackowiak and Amacher, 2008; Stillings and Amacher, 2010).

Historically, mining operations have been approved by the appropriate federal agency and conducted in compliance with the applicable rules and regulations. Since discovery of selenium issues in the late 1990s, the process of phosphate mine permitting (approval) has included comprehensive scientifically based studies to assess the potential for selenium releases and to evaluate measures designed to limit the potential impacts of overburden handling and disposal. As a result, the impact-analysis and permitting process conducted to address requirements of the National Environmental Protection Act (NEPA) now involves extensive input from inter-disciplinary teams of technical specialists in geology, hydrology, water quality, engineering, and fisheries biology representing numerous federal, state, and local entities. To complete the approval process for new mining panels typically takes more than five (5) years. During this process, extensive environmental studies, geo-chemical tests and environmental modeling is done to understand potential impacts to the environment.

It is expected that the level of selenium releases and associated environmental effects from new mining activities will be significantly reduced from that of historical mining operations. These improvements will occur by utilization of the following mining methods and technology:

- Seleniferous overburden will be handled to reduce exposure to the elements and it will be placed deep in the mine pits to prevent vegetative uptake of selenium.
- Vegetation species that do not accumulate selenium will be used in to reclaim mining-disturbed areas.
- A low-permeability, layered cover system, utilizing a geo-synthetic material or clay-like geologic materials, will be used to reduce infiltration of water into reclaimed overburden.
- Overburden covers will be shaped to promote runoff and reduce infiltration through the cover.
  
- No cross-valley fills will be used and disposal of seleniferous overburden outside of pits will be minimized.
- Overburden will not be placed in drainages or intermittent drainages or on seeps or springs.
- Runoff will be directed away from seleniferous overburden.

**Summary**

The petition before the Agency to require phosphate rock mining to be subject to SARA 313 reporting is entirely based on selenium releases from phosphate mining in southeastern Idaho. As described in this document, these releases were the result of

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government approved, historical mining methods. There is a very active CERCLA process underway at most of the historical mine sites. This process, which has the opportunity for public involvement, has and is generating thousands of pages of data and studies that go into more detail on the extent of selenium releases and potential associated risks than could ever be gained from SARA 313 reporting.

The human health and ecological risks associated with these releases have been studied. The mining area was classified by the Idaho Bureau of Community Health as no apparent public health hazard. Elevated risks to ecological receptors do exist at specific locations. Studies will continue at specific locations to identify risks, development of options to address these risks and then implementation of corrective measures. Finally, the practices and technology being implemented with current mining has reduced significantly the potential for selenium releases.

Thus, from a public “right to know” perspective, there is already considerable information available to the public and the issue of concern in the petition is being addressed through a number of federal and state agencies (including EPA). Any new mining, which also goes through an extensive public involvement and comment process, is thoroughly studied so that such mining does not result in the releases that occurred historically. Thus, the “value” that would be obtained from an additional reporting requirement (such as SARA 313) would be very low.

Sincerely,



Jack Lyman

## APPENDIX A

### NPL SITES IN IDAHO

Site Name	City	CERCLIS ID	Final Listing Date	Site Score	Federal Facility Indicator	Additional Information
Bunker Hill Mining & Metallurgical Complex	Smelterville	IDD048340921	09 / 08 / 1983	54.76	No	<ul style="list-style-type: none"> <li>• <a href="#">Site Listing Narrative</a></li> <li>• <a href="#">Site Progress Profile</a></li> <li>• <a href="#">Federal Register Notice</a></li> </ul>
Eastern Michaud Flats Contamination	Pocatello	IDD984666610	08 / 30 / 1990	57.80	No	<ul style="list-style-type: none"> <li>• <a href="#">Site Listing Narrative</a></li> <li>• <a href="#">Site Progress Profile</a></li> <li>• <a href="#">Federal Register Notice</a></li> </ul>
Idaho National Engineering Laboratory (USDOE)	Idaho Falls	ID4890008952	11 / 21 / 1989	51.91	Yes	<ul style="list-style-type: none"> <li>• <a href="#">Site Listing Narrative</a></li> <li>• <a href="#">Site Progress Profile</a></li> <li>• <a href="#">Federal Register Notice</a></li> </ul>
Kerr-McGee Chemical Corp. (Soda Springs Plant)	Soda Springs	IDD041310707	10 / 04 / 1989	51.91	No	<ul style="list-style-type: none"> <li>• <a href="#">Site Listing Narrative</a></li> <li>• <a href="#">Site Progress Profile</a></li> <li>• <a href="#">Federal Register Notice</a></li> </ul>
Monsanto	Soda	IDD081830994	08 / 30	54.77	No	<ul style="list-style-type: none"> <li>• <a href="#">Site Listing Narrative</a></li> </ul>

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Site Name	City	CERCLIS ID	Final Listing Date	Site Score	Federal Facility Indicator	Additional Information
Chemical Co. (Soda Springs Plant)	Springs		/ 1990			<ul style="list-style-type: none"> <li>• <a href="#">Site Progress Profile</a></li> <li>• <a href="#">Federal Register Notice</a></li> </ul>
Mountain Home Air Force Base	Mountain Home	ID3572124557	08 / 30 / 1990	57.80	Yes	<ul style="list-style-type: none"> <li>• <a href="#">Site Listing Narrative</a></li> <li>• <a href="#">Site Progress Profile</a></li> <li>• <a href="#">Federal Register Notice</a></li> </ul>

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